THE MEDICAL FORTNIGHTLY

Vol. XXXIII ST. LOUIS, MAY 11, 1908. No. 9

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LEADING ARTICLES

DEFORMITY OF THE PENIS PRODUCING IMPOTENCY DUE TO ARTERIO-SCLEROSIS.

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CHICAGO.

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FOR several years my attention has been directed to a form of impotetia coenudi which, so far as its etiology and pathology are concerned has hitherto escaped observation. Cavernositis chronica—sclerosing inflammation of the corpora cavernosa—is sufficiently familiar to the genito-urinary surgeon, at least—but the dependence of the affection on a general systemic condition is apparently not recognized. The patient, usually above middle age, presents himself complaining of curvature of the penis during erection, which in effect is a chronic chordee. This has often progressed until coitus is impossible before the surgeon is consulted. Syphilis, alcohol, rheumatism and gout are the chief etiologic factors to which the condition is attributed. The possible causal relation of these etiologic factors to the local condition is logical enough, but it is not easy to explain why the pathologic process should localize itself in the erectile tissue of the penis, especially where the process is more or less diffuse.

Where the condition is quite circumscribed, what I have to say regarding a general arterial disturbance is not so pertinent. Old time injury, perhaps long-forgotten, and infections of various kinds, gonorrheal especially, may have been the determining cause, especially in the last mentioned class of cases. In the diffuse variety and probably also in many cases of the circumscribed, I am confident that something more than a local disease exists.

In brief, whatever the primary etiologic factors, local and general may be, the penile process is merely the local expression of general arterial disaese. This in no wise lessens the importance of the etiologic factors usually assigned to chronic cavernositis for, as is well known, they bear a most important relation to the general condition.

Experience has taught me to look for evidences of general arteriosclerosis in such cases, and I often find them, so often indeed, that I suspect its existence even when the accessible arteries are but little, if at all, involved. In gouty, high livers, who are not far advanced in life, incipient arteriosclerosis may exist, yet no cardiac or superficial changes be evident as yet.

Errors in diagnosis by internists are frequent because of this fact In "type" cases of the condition under consideration, cardiovascular changes are found. Arcus senilis may be present.

Time levels symptomatic distinctions between the man of 45 or 50 years of age in whom there is perhaps nothing but slight hyper-vascular tension, and the man of 60 or above, with pipe-stem radials and temporals, cardiac changes and arcus senilis.

The prognosis of cavernositis is in general unfavorable so far as disappearance of the deformity is concerned. The condition fortunately is painless and not dangerous to life. Occasional cases are met with, usually of the circumscribed variety in which the sclerotic plâques disappear, whether despite or because of treatment I cannot say. In the form associated with general arteriosclerosis, treatment is worse than useless. Voluminous case reports are tiresome to both author and reader, hence I will content myself by recounting a single typical case:

Mr. A. B., age 60. Had always been a healthy man. No history of venereal disease or injury. One year before consulting me

he noticed that his erections were imperfect. The head of the penis was at first alone involved, remaining soft and small during erection. The deformity gradually increased until at the time of my first examination the anterior half of the penis remained flaccid during erection, the penis being sharply bent at about its middle. Slight anginous attacks had occurred for the past six months. Examination disclosed a marked sclerosis of the corpora cavenrosa, involving the anterior half of the organ. The sensation imparted to the touch was suggestive of a fibrous cord considerably smaller in bulk than the normal bulk of the cavernosa bodies. The involved portion of the penis had a shrunken appearance, a distinct "shoulder" presenting itself at the line of demarcation between the involved and the normal portions. There was a marked arcus senilis and "pipe-stem" radial, temporal and femoral arteries. The heart sounds were feeble, although there was distinct cardiac hypertrophy. The urine was in excess—90 ounces per diem—on a moderate intake of fluids. There were both hyaline and granular casts in small number, and from time to time a trace of albumen. The specific gravity of the urine varied from 1005 to 1010. There were no uremic manifestations. The history showed dietetic and alcoholic excesses extending over many years. A pertinent fact was a family history in which cardiac and apoplectic disturbances were numerous. His mother died of "heart disease," and his father and a younger brother of "apoplexy." There was an obscure personal history of "rheumatism," but no venereal history. The penile deformity is slowly and persistently increasing.

100 State St.

FORMERLY variola claimed 6,000 deaths annually in the six provinces around Manila, P. I. Since the Americans have introduced sanitary methods, vaccination has changed all this. Five million Filipinos have been subjected to this precaution. Last year not a single death was caused by smallpox.

THE warden of the Tennessee penitentiary reports that more than 50 per cent of the deaths occurring at that institution are from tuberculosis. As a reason for this high percentage of mortality, he says that as a rule the men sent there are practically physical wrecks. When they are confined in the buildings tuberculosis develops in a short while. As a result of this report, the commissioners of the State prison have definitely decided to build a tuberculosis hospital at this institution.

GASTRIC ARTERY (ARTERIA GASTRICA) —THE "PROXIMAL CONCENTRIC GASTRIC CIRCLE."

BYRON ROBINSON, B. S. M. D.

CHICAGO.

THE gastric artery is one of the trifurcating branches of the coeliac of which in adult it is the least in dimension. It is the nutritive vessel of the lesser gastric curvature in which it is located. The gastric artery is an arc with a left origin from the trunk of the coeliac and a right origin from the common trunk of the hepatic and gastric-epiploic arteries. Its circle is completed by the hepatic artery. The concavity of the gastric artery curve is directed proximalward. It is an unpaired artery.

The *topography* of the gastric artery may be generalized in he following condensed statements:

Holotopically (relation to general body).—The gastric artery is located symmetrically in the central portion of the trunk.

Skeletopically (relation to osseous system).—The gastric artery is related with the i and ii lumbar, and xii dorsal vertebra.

Syntopically (relation to adjacent organs).—The gastric artery is associated with the stomach, pancreas, liver, cholecyst, omentum minus, splenic and hepatic arteries.

Idiotopically (relation of component segments).—The gastric artery is an arc with its concavity presenting proximalward. Its right origin (ex arteria hepatic) is practically on a level with its left origin (ex arteria coelica). The gastrica arch is located distal to its right origin but partly proximal to its left origin. The component segments of the gastric artery are continuous, however, irregular in diameter and course.

(NOTE.—I shall assume that the term arteria gastrica is correct, and that it should be described as a single indivisible artery similar to the utero-ovarian. The location of the inosculation of the right and left gastric artery cannot be indicated or marked. For convenience of description the terms right origin—origo dextra and left origin—origo sinistra may be employed. It is true the gastric artery may vary in diameter in different segments, however, this fact does not furnish the clue to the point of inosculation. We shall assume as the correct terms the arteria gastrica (dextra) right gastric artery and as arteria gastrica (sinistra)—left gastric artery.)

I. ARTERIA GASTRICA (DEXTRA).

Synonyms.—Arteria pylorica; arteria gastrica minor; arteria, coronoria ventriculi

dextra; arteria gastrica superior dextra; right coronary artery, right gastric artery.

Die rechte obere Kranz Pulsader des magens.
Kleine oder rechte Kranz pulsader des magens.
Artere gastrique droite.

Origin.—The arteria gastrica dextra, or pyloris. (See figures 30, 38, 42, 43, 44, 45, 46, 48, ,49, 51, 53, 56, 57, 63.)

Course.—The course of the arteria gastrica dextra is first distalward toward the pylorus, whence it directs itself leftward in a curved, sinuous journey between the blades of the omentum parallel and adjacent to the minor gastric curvature to inosculate with

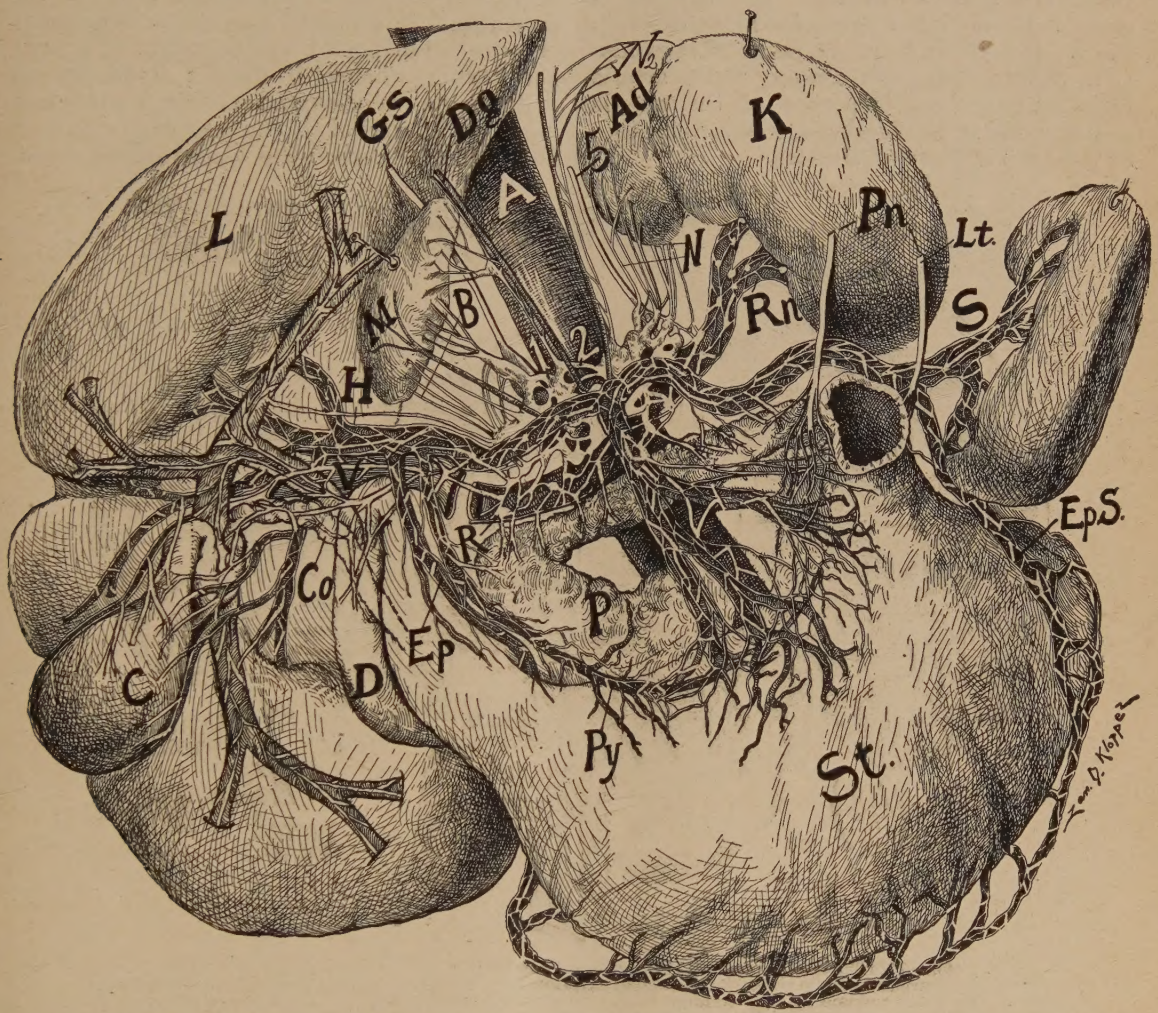

FIG. 1.—GASTRIC ARTERY WITH ITS PERIPHERAL NERVE APPARATUS—"PROXIMAL CONCENTRIC GASTRIC CIRCLE."

This illustration presents the "concentric gastric circles" ensheathed with the nervus vasomotorius—the controlling apparatus of the blood volume which passes through the circles. The agents by which the caliber of the vessels composing "concentric gastric circles" may be combatted, influenced, are the specialized peripheral ganglia (Auerbach's and Billroth Meissner's), utilizing the "concentric gastric circles" for the purpose of gastric hyperemia or gastric anemia is the highest office of physiology and the maximum therapeutic agent, for blood cures disease. This illustration presents the vast influence which the automatic specialized peripheral ganglia of "inosculating circles" may exert by approximate application of physiology by natural agents, as fluid, food, massage, electricity. Gastric ulcer may be cured by flooding the stomach walls with blood by means of stimulation of the specialized peripheral ganglia of the "concentric circles" (Auerbach's and Billroth—Meniere's).

right gastric artery arises: (a) from the right branch of the arteria hepatica propria; (b) from arteria hepatica communis; (c) from the right branch of the arteria hepatica propria; (d) from the arteria gastro-epiploica; (e) from the common trunk of the arteria hepatica propria. The right gastric artery arises opposite the proximal border of the

the arteria gastrica sinistra. The distance between the gastric artery and lesser gastric curvature varies from contact to one inch. The direct course of the artery may be interrupted by deviating anastomoses.

At the junction of the middle and right third of the lesser gastric curve the right gastric artery bifurcates forming the right

half or portion of what I term the "circle of the gastric artery (Fig. 63), which is completed by the bifurcation of the left gastric artery.

Dimension.—It is one-twelfth of an inch in diameter and its length cannot be measured as the arteria gastrica forms by inosculation one indivisible artery similar to the arteria uterina ovarica. Its diameter is greater at its origin than four inches leftward. It extends from the point of inosculation with the left gastric artery to the arteria hepatica propria. The root of the arteria gastrica dextra is of less dimension than that of the arteria gastrica sinistra.

Artere Gastrique gauche.

Origin.—It arises first, as a rule, from the proximal surface of the trunk of the coeliac artery between its origin and bifurcation into hepatic and splenic arteries; second, it may arise from the arteria splenica, or third, from the arteria hepatic communis.

Course.—It courses proximalward, ventralward and leftward over the left crus of the diaphragm in a special fold of peritoneum to the cardiac orifice of the stomach, to supply the cardia whence it directs itself by an acute angle in a curved course, distalward, rightward, parallel to the lesser curvature of the stomach between the blades of the omen-

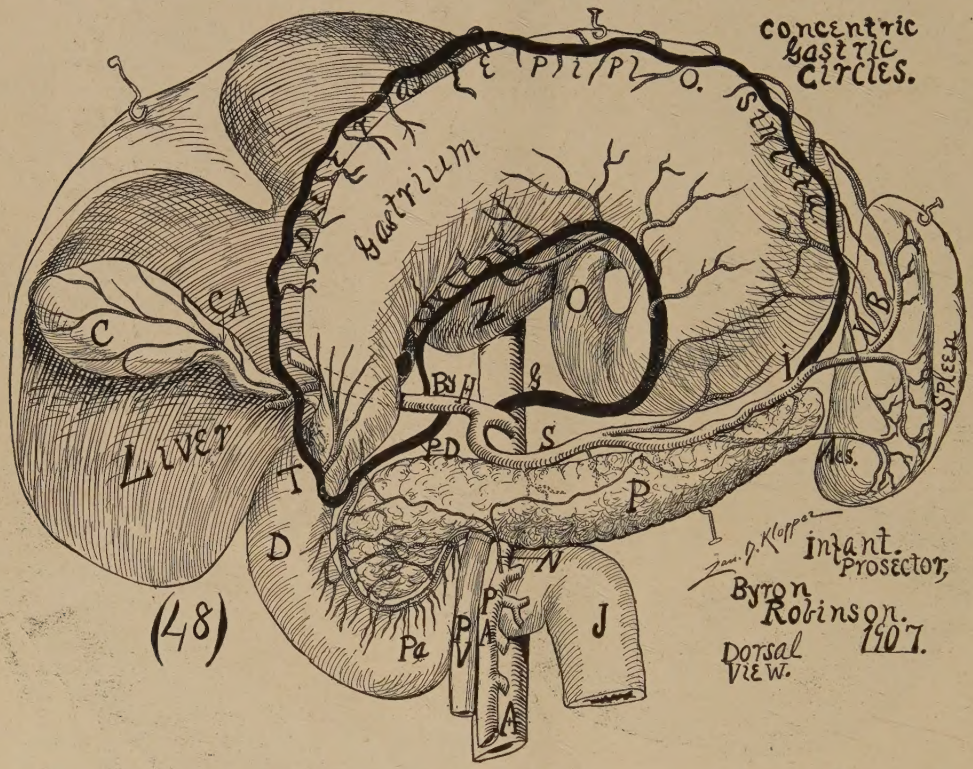

Fig. 2 (48).—This illustration presents the "proximal concentric gastric circle" produced by the gastric artery, which arises from the trunk of the coeliac axis (left end) and terminates in the hepatic artery (right end). The blood volume in the "concentric gastric circles" is controlled for therapeutic purposes by stimulating its automatic specialized peripheral ganglia.

Location.—The arteria gastrica dextra is situated in the right end of the minor gastric curvature between the blades of the omentum minus.

II. ARTERIA GASTRICA (SINISTRA).

Synonyms.—Arteria coronaria ventriculi sinistra. Arteria gastrica superior sinistra. Arteria coronaria ventriculi superior. Gastro-hepatic artery. Arteria gastrica major, left coronary artery. Arteria gastrica magna, left gastric artery.

Link obere Kranz Pulsader des magens.

Grosse obere magen Kranz Gefässe.

tum minus in the gastro-pancreatic fold to inosculate with the arteria gastrica gastrica dextra (ex arteria hepatica). It pursues a semicircular, sinuous, course between the blades of the omentum minus. In the beigning of its course it lies dorsal to the omentum minus. The course of the artery varies considerably as to its distance from the lesser gastric curvature. The course of the gastric artery may not only present sinuosity but angu, larity.

In its course adjacent to the junction of the left with the middle third of the lesser gastric curve it bifurcates, forming the left

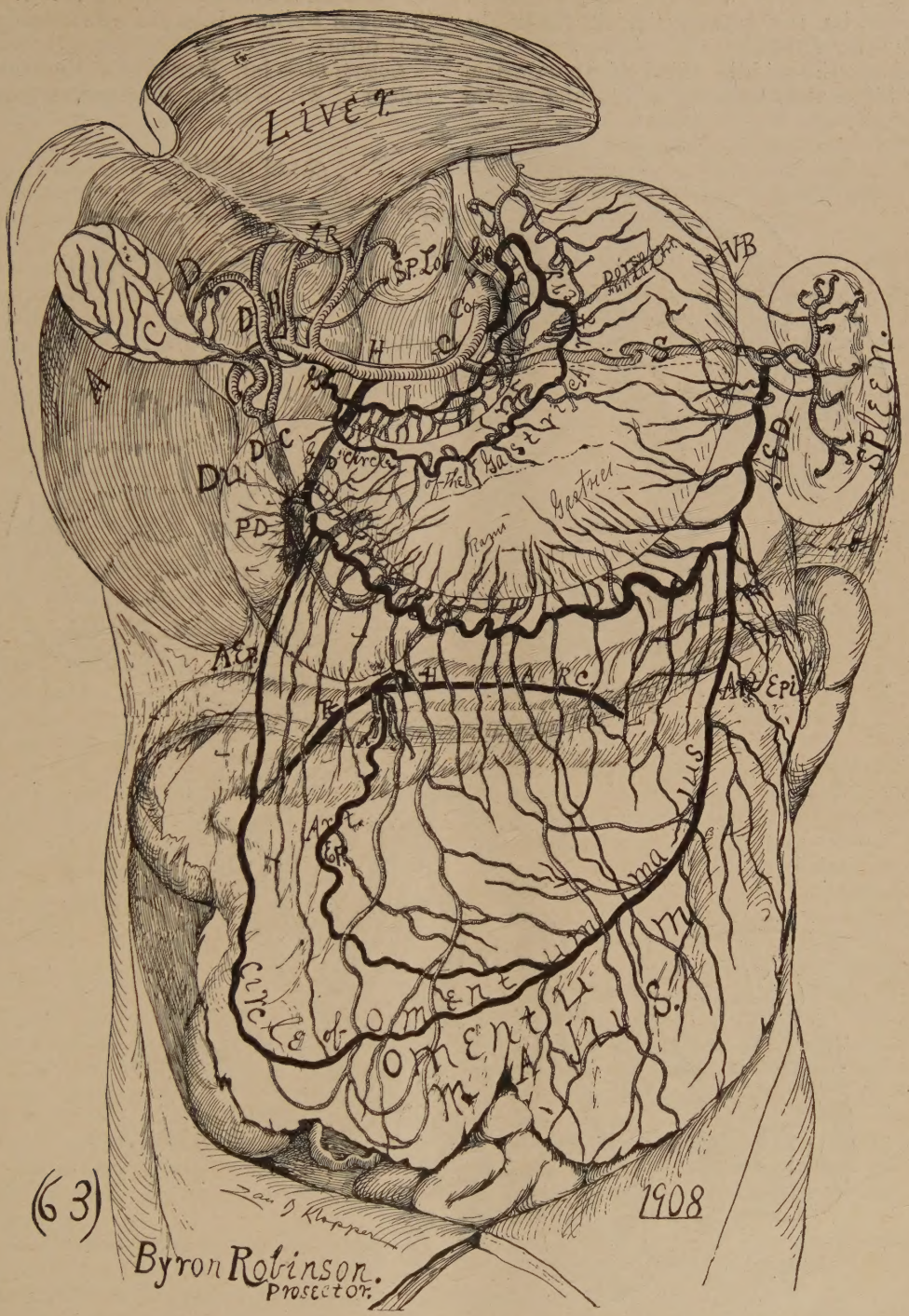

Fig. 3 (63).—This illustration presents the gastric artery or "proximal gastric circle" In this subject the gastric artery produces what I term the "circle of the gastric artery." The gastric artery arises at its right end from the hepatic and at its left end from the splenic artery. The blood volume of the "concentric gastric circles" is controlled by stimulating their automatic specialized peripheral ganglia (Auerbach's and Billroth-Meniere's).

half or portion of what I call the "circle of the gastric artery" (see Fig. 63), which is completed by the bifurcation of the right gastric artery.

In short, the middle third of the gastric artery bifurcates, forming a vascular circle

The "circle of the gastric artery" may be of considerable dimensions, e. g., four inches in length by one inch in diameter and of oval form.

Location.—1st. Dorsal to the omentum minus. 2d. Within the gastro-pancreatic

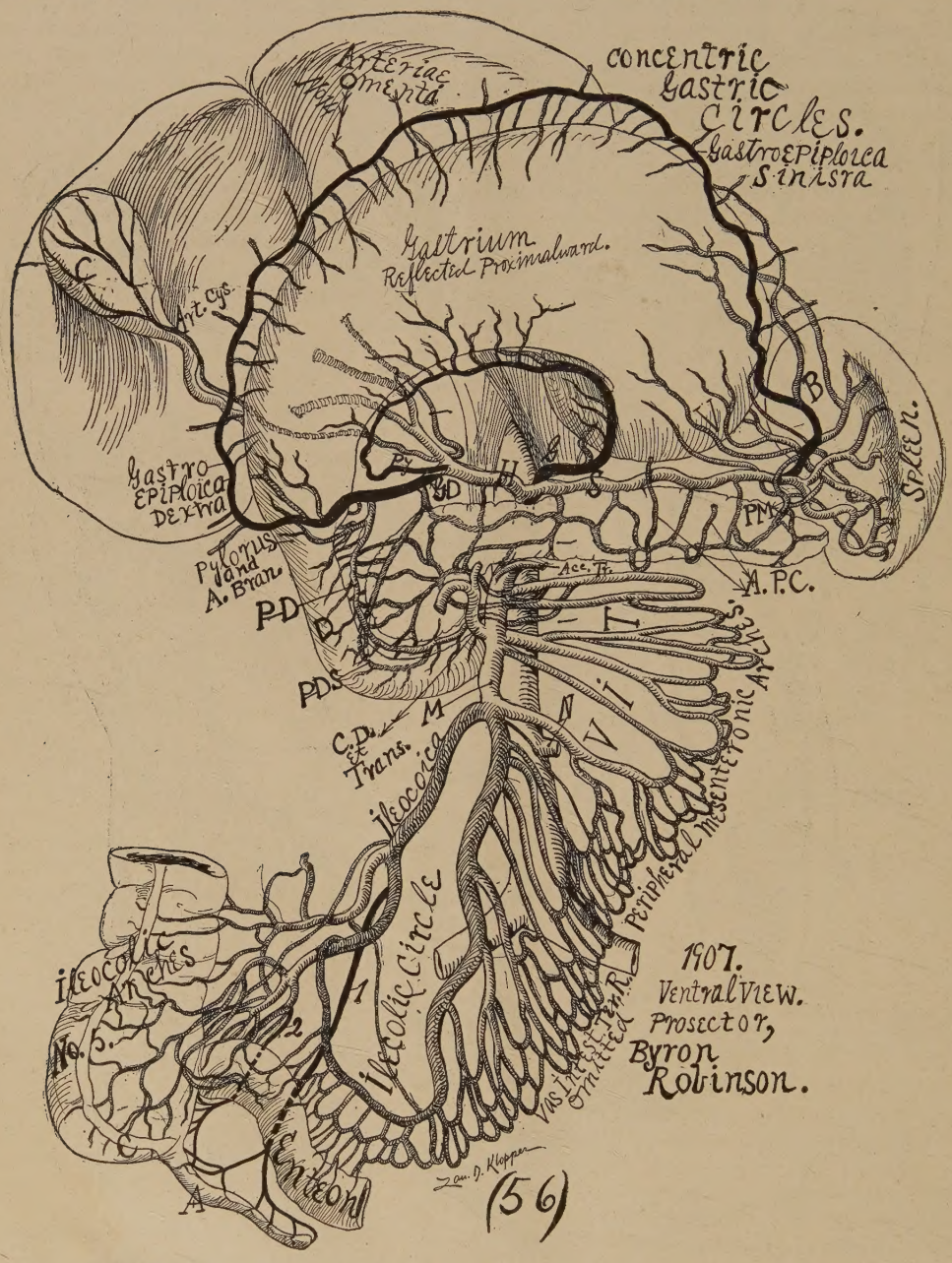

Fig. 4 (56).—"Concentric gastric circles" reflected. Gastric artery G—Py.

—"circle of the gastric artery." The bifurcation of the left gastric artery presents frequently two arteries of equal volume coursing practically parallel to the distal third of the lesser curvature.

fold and between the minor omental blades. It is located in the lesser gastric curvature.

Dimension.—The arteria gastrica sinistra is about one-sixth of an inch in diameter at its origin at the coeliac axis. It possesses

the minimum dimension of the three coeliac branches and gradually diminishes toward the middle of the lesser curvature. The inosculation of the (right and left) gastric artery might be considered to occur at the middle of the lesser gastric curve where the arteries are the most diminutive when in diameter. Its length cannot be designated as the point of its inosculation with the arteria gastrica dextra cannot be located. It may measure ten inches in length.

RAMUS ANASTOMOTICUS.

The Inosculation of Right and Left Gastric Arteries.—Ramus anastomoticus is the means by which the arteria gastrica dextra et sinistra become solidly inosculated. The right gastric artery (ex arteria hepatica) together with the left gastric artery (ex arteria splenica) forming a single indivisible, continuous vessel—the proximal gastric vascular arch. The ramus anastomoticus unites the right and left gastric arteries producing the proximal "concentric gastric circle." Since the gastric, right and left forms by insoculation a single, indivisible, continuous vessel similar to the arteria uterina ovarica, all its branches will be known as branches of the gastric artery. Frequently the gastric artery courses as a double practically parallel vessel of almost equal volume for one-third to one-half its length to its middle portion, and these two branches may inosculate forming a distinct vascular circle of considerable magnitude located in the lesser gastric curvature—"circle of the gasric artery."

THE GASTRIC ARTERY (arteria gastrica).—The proximal "concentric gastric circle."

Synonyms of the gastric artery.

"*Proximal Gastric Circle.*"—Arteria gastrica superior; arcus gastricus proximal; arcus gastricus minor; arcus arteriosus proximal; arteriosus gastricus minor; arteria coronaria ventriculi; arteria coronaria ventriculi proximal; arteria coronaria ventriculi superior; arteria coronaria ventriculus minor; proximal gastric artery; coronary artery of the stomach.

Kleinen Schlagader bogen des magens.

Obere Kranz Schlagader des magens.

Obere Gefasse Kranz des magens.

Artere coronarie Stomique.

Artere stomo-gastrique.

Dimension.—The diameter of the gastric artery varies in different segments. It is the greatest at the left origin, being perhaps one-sixth of an inch. It is the greater at the right origin being perhaps one-tenth of an inch and least in diameter at the central portion, perhaps one-twelfth of an inch. The volume of blood passing through it is relatively much less than that which passes through the gastro-epiplotic artery (distal concentric gastric circle).

Length.—Though the minor gastric curvature is in general one-third the length of the major, yet the gastric artery measures some eight or ten inches in length, while the gastro-epiplotic artery, its opposite fellow, measures 15 to 18 inches in lengh.

BRANCHES OF THE GASTRIC ARTERY.

The branches of the gastric artery arise from its convexity—practically no branches arise from the concavity of the gastric artery, except minute ones to the omentum minus. The branches of the gasric artery pass perpendicular toward the gastric axis similar to those of the gastro-epiploica.

1. The esophageal branches—*rami esophagei*—vary in number and assume a vertical or transverse course.

The vertical or proximalward directed branch (one or more) arises from the convexity of the gastric artery adjacent to the cardia. It courses proximalward on the esophagus through the esophageal aperture to the dorsal mediastinum, distributing itself by numerous flexuous twigs to the esophagus and anastomosing with the aortic esophageal branches—several—surround the cardia in a semi-circular course constituing the rami cardici with a horizontal direction. They distribute themselves to the oesophagus, to the gastric cul-de-sac and others anastomoses with the arteriae gastricae breves.

2. *Rami gastrici* (ventral et dorsal) emerge from the arteria gastrica as its courses along the lesser curature passing to the ventral and dorsal gastric surface in irregular numbers distribution and dimension. The dorsal surface is supplied the more abundantly. The branches divide into vast numbers of separate twigs, which penetrate between the mucous and muscular coats of the stomach and anastomose with each other and with rami gastro-epiploici (dorsal and ventral), producing solid compact gastric anastomosis. The arteria gastrica emits small twigs to the omentum minus.

When the "circle of the gastric artery" exists the larger dorsal branches to the stomach become emitted from the dorsal circumference while the lesser ventral branches become emitted from its ventral circumference. The gastric artery or "proximal concentric gastric circle" may possess imposed on its circumference a series of minor arches from the gastric artery or is imposed arches pass the vas gastrici terminale rectum or "straight terminal vessel" of the stomach (see Fig.63).

3. *Ramus Hepaticus.*—Frequently the arteria gastrica emits a branch some two inches from its origin to the left lobe of the liver. It may, perchance, supply the entire left liver lobe displacing the ramus hepaticus proprius sinistra. Since the arteria gastrica may emit frequently a large branch to the liver the first branch of the coeliac artery may be termed the *gastro-hepatic artery.* In case the ramus hepatics be present the gastro-hepatic artery, i. e., (the common trunk of the gastric and hepatic arteries), may be of equal volume with the splenic or hepatic. In gastrectomy the gastric artery only should be ligated in order not to compromise the blood supply of the liver.

4. *Rami Pylorici.*—Toward the right the gastric artery emis several branches to the

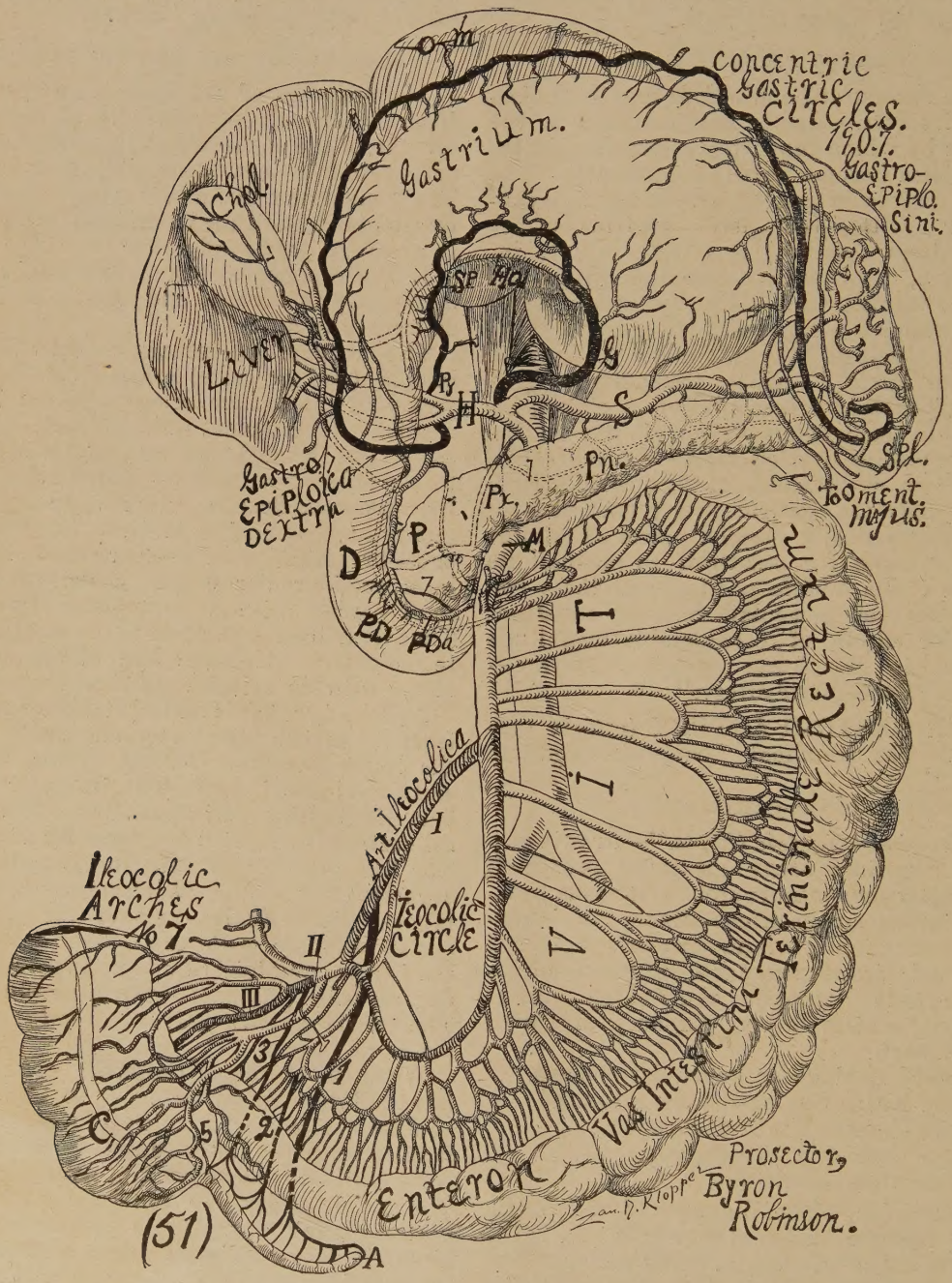

Fig. 5 (51).—"Concentric gastric circles" reflected. Gastric artery G—Py, which is partially duplicate.

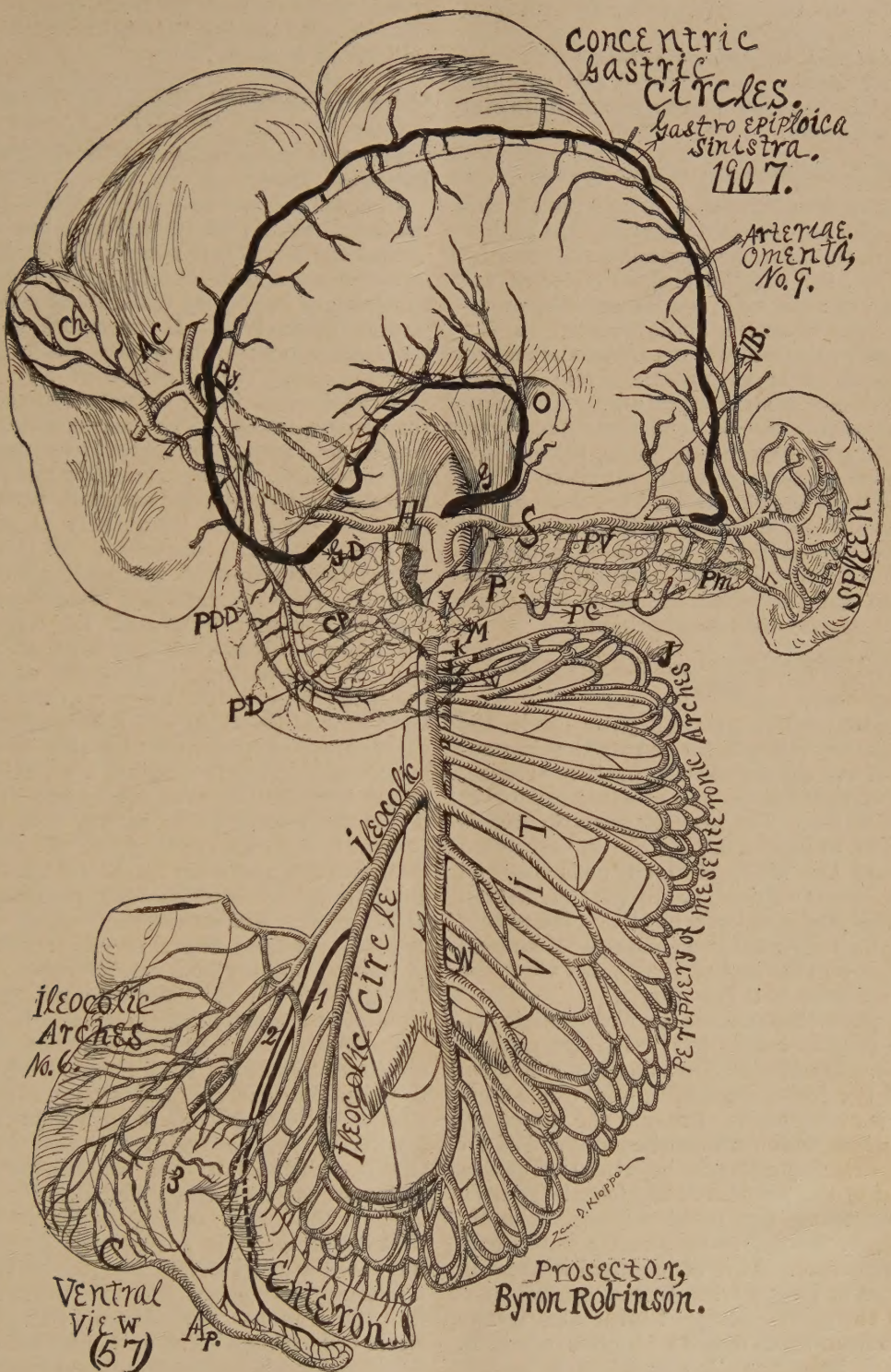

Fig. 6 (57) "Concentric gastric circles" reflected. Gastric artery G—Py. It presents in an unusual location the "circle of the gastric artery."

proximal and distal surface of the pylorus. The pyloric branches anastomose with the branches of the arteria gastro-epiploica dextra.

5. *Arteria diaphragmatica* may be emitted from the gastric aretry. It supplies mainly the diaphragm and adrenal of its corresponding side.

THE "CONCENTRIC GASTRIC CIRCLES."

If the abdominal aorta is completely injected with red lead and starch and the coeliac axis with its bifurcated branches isolated by dissection, two concentric gastric circles are visible, viz.: the one the lesser—the proximal or gastro-hepatic circle, located in the lesser gastric curvature; the other, the greater —the distal or hepato-splenic circle located on the greater gastric curvature. The concentric gastric circles, constant structures, are of ample interest—anatomic, physiologic and pathologic—to demand attenion. The "concentric gastric circles" are formed by the anastomosis of the proximal and distal "gastric arches," i.e., by the inosculation of the right and left gastro-epiploic artery distally, and the inosculation of the right and left gastric arteries proximally.

THE PROXIMAL GASTRIC CIRCLE (GASTRIC ARTERY).

The proximal or gastro-hepatic circle, the lesser gastric circle is formed by the inosculation of the right and left gastric arteries. It is a constant circle and of equal interest to that of Willis. The proximal gastric arch is some 8 to 10 inches in length. A half dozen years ago Dr. W. E. Holland published an article on this subject, naming it the "Byron Robinson gastro-hepatic circle." Since that time I have devoted considerable time and attention to the matter, and now view the above circle as half the story.

The stomach possesses two concentric circles (a proximal and distal) of equal clinical interest. By the B.N.A. anatomic nomenclature the lesser gastro-hepatic circle completes is anastomosis through the ramus anastomoticus which unites the right end of the gastric artery (ex arteria hepatica) with the left end of the gastrica artery (exarteria coelica) producing the proximal gastric arch. The lesser, the gastro-hepatic circle is a constant structure. It is of practical interest in medicine and surgery. In the central portion of the gastric artery it bifurcates and reunittes forming an oval 3 x 6 inches in length, which I term the "circle of the gastric artery."

The plan of the blood apparatus of the stomach is similar to that of the general tractus interlinalis, viz., trunk, branch, arch, "straight terminal vessel." The gastric artery is a branch and an arch of the coeliac trunk, while its rami gastrici—gastric branches—constitute the "straight terminal vessel" of the stomach.

THE DISTAL GASTRIC CIRCLE (GASTRO-EPIPLOIC ARTERY).

For this subject see Medical Standard, February, 1908.

General Remarks.—The gastric artery, the smallest of the three branches of the coeliac trifurcation is remarkable for its maximum dimension at its left origin while its right origin is equally remarable for its minimum dimension. It describes a circular sinuous course along the minor gastric curvature from its left origin at the coeliac axis to its right origin at the middle third of the hepatic artery. The gastric artery is the smaller and proximal arch of two concentric gastric circles. The gastric artery is of significant importance in surgical procedures from the fact that frequently it emits a branch of marked dimension to the liver. Hence the ligation of the gastric artery adjacent to its left origin may seriously jeopardize the vascular supply of the liver, i. e., the lobus sinistra (see figures 40, 44, 47, 51, 53). In extirpating the stomach as regards the blood supply the gastric artery should be ligated at the right and left origins. The gastro-epiploic artery should also be ligated at its right and left origins, i. e., at its left origin from the splenic artery and its right origin from the hepatic artery, as it courses ventral to the caput pancreaticus. Hence to extirpate the gastrium ligate the gastric and gastro-epiploic arteries—the proximal and distal gastric arches—at their right and left origins. Pyloric branches—rami pylorici—of limited number and caliber from the gastro-epiploic artery may require clamping from active anastomosis, oozing. In viscera there is a tendency to form distinct vascular circles, anastomosis. Both the gastric and gastro-epiploic arteries are sinuous in their course, and of greater length than the respective gastric curvatures at rest in order that the distension and contraction of the stomach may be accommodated.

From the given description it is evident that the stomach is surrounded by an uninterrupted arterial circle formed by the gastric artery and gastro-epiploic artery. Also that the branches derived from this arterial circle constitute a solid and compact anastomatic net work on the dorsal and ventral gastric walls.

The rock and base of circulation is the anastomoses and a frequent form is that of the "inosculation circle" in relation to viscera,

e.g., "utero-ovarian circle," "ileocolic circle," "ileocolic arches," "concentric gastric circles," circle of Willis. One of the greatest therapeutic problems is to control the volume of blood in the "vascular circles" for blood prevents and cures disease. The means by which blood is controlled in anastomosis or the "inosculation circle" is by stimulating automatic specialized ganglia located along the periphery of the vascular circle. They are stimulated by hot douches, tampon, electricity, massage, gestation. For example, the automatic ganglia located on the "ileocolic circle" may be stimulated by massage, by cathartics, by visceral drainage, by exercises, by electricity, by eating coarse food—all of which entices blood to the enteron from the "ileocolic circle."

The natural stimulation of the "concentric gastric circles" (composed of the gastric and gastro-epiploic arteries) is fluid and food, as similarly the natural stimulation of the "utero-ovarian circle" is menstruation and gestation.

ON ORIGIN OF LIFE.

ALBERT S. ASHMEAD, M. D.

NEW YORK.

SHORTLY after you published my article, "Evolution of Man is Evolution of Nature," in the MEDICAL FORTNIGHTLY, February 25, 1908, Dr. L. A. Merriam, of Omaha, Nebraska, sent me a reprint of his article read before the Nebraska State Medical Association, June 7-9, 1907, entitled "Archebiosis and Heterogenesis," and published in the Western Medical Review, August, 1907. Certain passages therein were marked for my perusal, which are as follows: "Referring to well understood principles of modern science, as today accepted by all progressive thinkers;" he quotes Lord Kelvin as resolving the atom of hydrogen into about twelve hundred so-called corpuscles, now better known as ions or electric units. "These electric units are only centers of force, or latent energy, and are correlated with the cosmic ether of infinite space, in which consciousness inheres. To me all energy is life, and all matter living. For life is only a molecular atomic, ionic, or ethereal vibration, a motion of the same nature as physico-chemical forces, and with them correlative and convertible. If we go backward in the development of the earth we soon come to a time when the earth was an incandescent mass, upon which no cell could exist. Cells must, therefore, have arisen at some time, from masses of matter that were not cells. No sharp line of chemical contact can be drawn between what we have heretofore regarded as living or non-living matter. That is to say, in accordance with the great evolution philosophy, cells or so-called living bodies, of a simple or lowly kind were evolved in the great laboratory of Nature, by the transformation of light, heat and chemical action." * * * "Bastian's language (Nature and Origin of Living Matter, 1905) implies that physical force has been transmuted into living force. There is no doubt whatever that one force is transformed into another force, and all forces should be regarded as living forces. When atoms or molecules combine chemically and rush into each others embrace, it is because of the awareness of one particle for the other, and this is to me intelligence; that is to say, everything in the universe has a life of its own, varying, though it may in rank and relative supremacy. This word life, remember, does not denote especially existing, of, and by itself. It is only used as a mental symbol connoting the sum total of the properties which distinguish such bodies from each other. Many great minds have differed, and in the future will differ, as to what they call the origin of life, but to me if the principles of evolution of all things through countless ages of the past be accepted as truth, then it naturally follows as a corollary, that some form of Archebiosis or the origination of organisms in accordance with natural law is a fundamental law of Nature. That the natural origin of so-called living matter took place once only in the remote past, and not since, cannot be entertained. That so-called living matter has continually been evolved during the ages of the past, and is so being evolved at the present time, there is abundant evidence to prove, and the day is not far distant when all will understand and accept it," * * *

"What a change would be exerted over medical doctrines if it was well understood that organisms can originate de novo instead of being only disseminated by contagion or infection."

And speaking of heterogenesis, or the common germs developed into pathogenic organisms by changes in environment, Dr. Merriam says: "The practical application of this question is that it is better to teach how to be strong and vigorous, so as to resist the influences of pathogenic germs than it is to teach people to avoid germs."

"Meanwhile," he says further, "I am aware that my efforts to serve humanity will inspire ridicule from the ignorant, who have not read the latest thoughts of the masters and know little or nothing of the great and fundamental principles of organic evolu-

tion; will excite hostility from the fanatical, who cannot get away from the exploded idea of a creative fiat of the infinite; will bring unjust criticism from the prejudiced, incredulity from the skeptical, and confidence from only the comparative few, who are aware of the trend of modern thought. There is no reason to suppose that the world is reaching the end of its development, and so we are to infer that the production of new species and varieties is still going on." His references, also marked, are as follows:

"First Principles," Herbert Spencer;
"Cosmic Philosophy," John Fiske;
"History of Creation, Ernst Haeckel;
The Evolution of Man," Ernst Haeckel;
Origin of Species," Chas. Darwin;
"Species and Varieties," Hugo DeVries;
"Nature and Origin of Living Matter," Charlton Bastian;
"The New Knowledge, Physics and Chemistry," Robert K. Duncan;
"The Dynamics of Living Matter," Jaques Loeb;
"Life and Matter," Oliver Lodge;
"Origin of Life," John Butler Burke;
"General Physiology," Max Verworn;
"General Biology," Segdewick and Wilson;
"The Cell in Development and Inheritance," Edmund B. Wilson;
"The Foundations of Biology," Wm. Keith Brooks;
"The Primary Factors or Organic Evolution," E. D. Cope."

The reading of Dr. Merriam's article has been for me most interesting, and I here thank him most cordially for giving me the opportunity to become acquainted with it. It is a valuable contribution; a closely reasoned, and admirably stated paper.

I shall give here a thought or two thereon, which I trust will not cause me to be deemed bold.

First let me say, however, he quotes Nageli as follows: "The origin of organic from inorganic is not a question of experience, but a fact deduced from the law of the constancy of matter and force."

He also quotes from Bastian, who claims to have established the fact of heterogentic origin of different kinds of ciliated infusoria from the eggs of one and the same Rotifer.

He refers also to Darwin's experiments with putrid bullock's blood injected in the subcutaneous tissue of a rabbit; the result of which was most virulent to life, and propagated from animal to animal, so that the millionth part of a drop of the animal's blood, was still virulent to life.

And this same putrid bullock's blood, when injected into the peritoneal cavity of a rabbit gave rise to a different disease; its effects were not so virulent; the bacilli were not found in the animal's blood until after death.

Here we have variations merely by different circumstances of entrance in a living environment. The activities of the invading organism became different, its living force was changed. The resisting powers of the situation in the rabbit's body was the main factor in the difference of action or power of the bacilli. This is in every species and every where in Nature, the sole principle of evolution. When the animal man had to fight for himself, for self-preservation, surrounded by no protective Church or State law, he was virulent. Before agriculture gave him its benefits he was a cannibal.

The descent and variation of a species of bacillus is not different from those of more organized species of living force. Persistence of the force is what constitutes life. Environment of circumstances which we must fight, in order that we may survive, is responsible for our change in character.

The coral anthozoa or hydroids of the ocean, which deposit material envelops to secure themselves and generations of protective branches, to the bottom of the sea to anchor thus their family islands is evolution of organic matter. Those living materials are formed from the saline menstrum, the chemistry of all original organic life, which fructifies most organic species. Indeed organic disease germs in other organic living forms are but the starting points of some new creatures. Plasmodium malariae, for example, whose type of virulence is increased by it's developmental stage of being in a mosquito's beak, its oviposits, will not segment, except with human blood. And the mosquito female must drink animal blood before her generations can multiply. Thus, too, with the sleeping sickness of Africa, a crocodile's blood, must be found before the inoculating fly can propagate its kind. Nature grows new species of living organisms, by involution methods.

A blood current of an animal species, may create a special living entity from inorganic materials just as well as inorganic phagocytes, which protect the species' own body. Vital properties originate from the chemistry of food and drink. If we were to kill off all the so-called germs that afflict animal life, we might interrupt the continuity of the chain of chemical life-activity in all organic creatures.

The conversion of wine into vinegar, by swarm-spores which cannot be seen by the strongest microscope, and of milk into butter is operation of living force. The difference

in species of swarm-spores, as of bacilli, is only variation of species, in accordance with differences of environment or of necessity. An individual's habits must adapt him readily or easily (with least harm) to new situations or circumstances. Thus are created new species, securing to the living forces materials, continuity for generational being. Those creatures which adapt themselves best to new surroundings or opportunities survive (escape from) overpowering enemies threatening them. Those which cannot well adapt themselves must die off. The new habits of the survivors are transmitted as inheritance to the eggs or offspring.

"All allotropic and isomeric transformations, such as variations of carbon, oxygen, hydrogen and other compounds, or of metals, salts and ethers, organic or inorganic, are merely manifestations of known or unknown living forces, belonging to the planetary system, for 'all force is living force.'"

Whence comes the power of the ocean and its salines, its oxygen, its enormous chemistry, giving life and motion to the millions of creatures? The sea has power to crumble mountains and continents, to change the face and requirements of this very earth. Its detritus of ages, gives sustenance to countless living forces, most of which we know not of. It revivifies the whole system of created beings, by new plasma made over and over again evolving from it boneless fish, the vertebrates, amphibians, ungulates or winged reptiles, up to animals and primitive man. All these creatures must arise forever from the abyssmal deep, on and ever on while the sun's heat and light, and chemical forces necessary to earth produce them.

But in 13,700 Anno Domini, again this old planet will recede, and become distant from the sun's influence, no water and no atmosphere will be here. There will be another glacial period in astronomical history. Where will be then our many forms of organized life?

Where will mankind be? And a new "evolution" after that glaciation of all terrestrial things must begin, all over again. Plasma will come first by motion of water, by heat or electric or chemical forces and succeeding forms must be moulded anew by the teeming floods, resulting from the melting of the ice, as this planet again approaches the sun. Heat and the saline solutions must create new solids from the liquids and gases; and fructify some of them into formations of living entities whose necessities, by special situation and requirement, will give habits peculiar to each one to preserve it from the vicissitudes of time and place, or from destruction by enemies, organic and inorganic. Thus will grow "knowledge" on earth once more. And one by one in rotation and order, must from new species, till finally again, man or some more perfect specific evolution of "superior intelligence" will have learned best how to live—to resist the down-throwing forces of Nature. Those new creatures of Nature, not of God, will evolve only after some eight to ten thousand years, have again gone by—the half of a new period between the time of glacial extinction of all animal life and the succeeding time of the earth's orbit. The power of preservation of species of living forces, derived from the sun, is the reason of all evolution. When we have gotten far enough away from this center of all light, heat and chemical action, on earth, towards the coming glacial period, involution will begin; it will be about 3000 Anno Domini. It will continue its disintegrating processes until nothing at all of what we wise ones now call life remains upon earth; matter alone will be here without organic life of any kind. All of which is instructive, illuminating perhaps, in our study of planetary things and time.

I do not draw from this, however, any valuable conclusion, other than that the affairs of this life, will go on as they have, for some centuries more—never-ending strife, fighting for mere existence—cruel, heartless is the law of Nature—seemingly even now, a never-ending Involution, if I understand the word, out of which is thought to be evolved finally the greatest and highest quantity.

I do not see how disease (so-called) mental, moral, physical, can be ever gotten rid of. We are doomed to the end of the earth.

Looking at the face of the earth, man sees the amphibious Silurian; looking toward Heaven, he sees the soaring Vulture. Not only is the form destructive around them; it is below him as above him.

Typical is the vulture, the highest flyer of all flyers, his thoughts for existence bent upon putridity! Born of conditions, and thus moved by necessity! "A terrible world this is!" said a well known man of this city.

50 Cathedral Parkway.

CLASS REUNION.—The St. Louis members of the 1898 class of the Missouri Medical College have planned a reunion of all the members. A banquet will be held Thursday evening, May 28, following the commencement exercises of the Washington University. Any member of the class of 1898 who has not received a letter notifying him of the proposed reunion is kindly requested to notify Dr. E. A. Babler, 4482 Delmar Ave., St. Louis, at once.

The Medical Society of City Hospital Alumni

President, WM. E. SAUER Humboldt Building
Vice-President, L. H. HEMPELMANN
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Scientific Communications, Drs. Williamson, Shutt and Barr.
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Publication, Drs. Loeb, Mook and Greiner.
Entertainment, Drs. Hinchey, Zimmerman and Baumgarten
Public Health, Drs. Reder, Amyx and A. E. Taussig.

OFFICIAL TRANSACTIONS.

PUERPERAL PYEMIA.*

ALBERT BODE, M. D.

ST. LOUIS,

Mrs. P., age 22, married; occupation, housework. Father and mother died at the ages of 40 and 33 respectively, of tuberculosis. Had three brothers and three sisters, three of whom died in infancy; cause unknown. One sister died during confinement, others living and well. Patient had mumps, measles and whooping cough when a child. Had pneumonia when 10 years old, from which she made a good recovery. Is said to have had typhoid fever at the age of 14, and made a complete recovery in five weeks.

When patient entered hospital on the 27th of November, pregnant about seven months, she was apparently in good health. Weight 140 lbs.; height 5, 8; temperature, 98; pulse, 116; respiration, 30. Examination of thorax negative. Nothing was found abnormal about the position of child or in the pelvis.

Patient was delivered three years ago of a full term male child, labor being normal except that she was told by the attending physician that she had an hour-glass contraction, and he removed the placenta manually. No infection or evil effect following.

On January 17th, 1908 patient went into labor at 6 a.m., and was delivered at 9:55 p. m. that evening of an eight and one-fourth pound female child, still-born. Total duration of labor sixteen hours and fifty-five minutes. After trying to express the placenta by Crede's method for about one hour and failing, a sterilized glove was put on, the hand introduced into the uterus and the placenta which was found adherent to the fundus from which it was carefully separated and removed. Considerable hemorrhage followed, but this was readily controlled by applications of hot bichloride solution and patient put to bed.

One hour after labor, the pulse rose to 140, volume good, respiration 36 and temperature 101.7. Patient was given 1 dram of fl. ext. of ergot and 1-30 gr., strychnine sulphate. On the day following delivery her temperature rose to 103 deg., pulse 140, respiration 30.

Patient was given a hypodermoclysis of 1000 c.c. normal saline solution and continuous rectal irrigation commenced.

One drachm fluid ext. ergot and 1-30 gr. strychnine given three times during day. From January 19th to January 21st the temperature ranged between 99.3 and 103.8. Pulse between 110 and 103.8. Respiration between 24 and 36. Bowels moved freely. Patients slept fairly well at intervals. Lochia scant. Somewhat nauseated and complaining of sore throat. Urine free of sugar, albumen and casts. Blood count showed erythrocytes 3,300,000, hemoglobin 55%, leucocytes 12,000.

Examination of first day lochia showed diplococci and bacilli present. Stimulants and the usual methods for reducing temperature were employed.

On January 21st at 5 p.m. the temperature rose to 105.2 rectal, pulse 122, resp. 32, and patient having slight chill. In the following morning at 12:30 a.m. patient had another chill and one at 1:40 a.m. Pulse declined to 98, respiration 22, temperature 98.8. At 6:55 p.m. the same day the pulse became intermittent 140, respiration 30, temperature 104.4. The knee joint became swollen, red and tender. Blood examination for plasmodium and bacteria negative. Hemoglobin 80% erythrocytes 4,800,000, leucocytes 12,500. Fifth lochia showed diplococci and bacilli. Sputum examination for tuber cle bacilli negative.

On January 22d at 5 a.m. patient had chill for ten minutes, coughed and expectorated freely. A 5:40 temperature rose to 105.7, axillary pulse 140, respiration 32. Uterus firm and tender. A reddened painful swelling appeared at the root of the zygoma on the left hip and the second metacarpo phalangeal joint of the right hand.

On January 23, patient complained of feeling chilly several times during the day, coughed a great deal and vomited. Culture from fifth day lochia showed streptococci

*Read at the meeting of January 16, 1908.

and diplococci. Culture from blood negative. Pulse 140, temperature 105.8 axillary, respiration 34.

From January 24 to January 28th, the pulse remained between 100 and 136; temperature 98 and 103.8, respiration 20 and 28. Patient coughing and vomiting frequently.

On January 29th temperature again rose to 104.6 R., pulse 124, respiration 28. Patient very restless and mind wandering and slept very little. Blood examination showed leucocytes 12,000, erythrocytes 4,000,000, hemoglobin 85%.

Blood culture and smear from hand showed streptococci present. Lochia and smear of pus from abscess of face also showed streptococci.

The patient has developed a number of abscesses at intervals of about a week on the arm, legs and hip. The temperature would always rise with each abscess formation and fall when the pus would be evacuated. The spleen became enlarged and tender.

Physical Examination.—On March 14th revealed a few rales along the anterior border of left lung between the second and fourth ribs. No dullness present. Heart sounds normal and regular. Liver margin not palpable. Spleen enlarged but not tender on palpation. At present patient seems to be considerably improved; appetite good, sleeps well and is gaining s trength daily. The abscesses on the face and hand have entirely healed and balance improving.

From the history of the patient, she having had the diseases of childhood including typhoid and peumonia, both parents having died of tuberculosis there seems to be an inherited lack of resistance to bacterial invasion. The general symptoms showed a severe intoxication, but the absence of a chill or local manifestation obscured the diagnosis for several days. The first symptoms are usually noticed when suppuration is fully established, but in this case the symptoms of intoxication were manifested before any local focus developed. Often streptococci are found in the cervix and vagina, and owing to the impossibility of sterilizing the parts they are carried to the denuded area where they penetrate the submucosa, causing a quick spreading inflammation which may at certain points lead to suppuration and abscess formation. If the streptococci break into the lymph and blood vessels, metastases are formed in the distant organs. When they enter the blood they do not increase in the circulating blood, but at the points where they lodge, heart, lungs, spleen, liver, bone marrow joints, etc. The danger of streptococci infection depends on the severe local changes and metastases and partly on intoxication by toxins, which finds expression in fever and general symptoms.

The individual foci of inflammation may persent different degrees of severity of inflammation depending on the individual differences of persons, virulence of infection and the conditions preceding or accompanying pathological conditions. Infectious diseases, as diphthera, tuberculosis, scarlatina, typhoid and influenza incease the predisposition of streptococci infection. The bacteria must have obtained entrance into the blood through the blood vessels in the uterus as the patient immediately manifested symptoms of severe intoxication. The individual being in a low stage of immunity, the micro-organisms gained entrance into the circulation, an acute infection developed which in all probability was the starting point of the disease.

That a serious general sepsis may develop from a trivial local focus is shown by Merel who had a streptococcus septicemia develop in a woman who had an angina at the termination of pregnancy. The labor progressed favorably, but immediately after its termination, the temperature rose and the patient presented all the symptoms of sepsis from which she died on the eighth day. Blood culture showd enormous quantities of streptococci. The pregnancy terminated naturally on the 15th day after the woman's throat became sore, and at no time had a vaginal examination been made. A verrulose endocarditis was found at autopsy. Pyemia like septicemia may run a fulminant or subacute course. Large amounts of toxins may enter the blood giving the disease the character of a severe toxemia, which may prove fatal before metasases occur; in the subacute form toxemia is less marked and metastatic complications follow. Such a case entered the hospital last August with a number of suppurating foci following a self-induced abortion. The autopsy showed multiple absceses all the internal organs and an abscess in the broad ligament communicating with the cervix.

SYPHILITIC LOBAR PNEUMONIA.*

J. A. HENSKE, M. D.

ST. LOUIS, MO.

Patient, C. S., age 20 years, female; white, single.

Habits.—Drank to excess at times; sexually loose; hygienic surroundings poor.

Family History.—Father and mother dead;

* Read at the meeting of January 16, 1908.

cause of death not known; family history otherwise nil.

Previous History.—Patient had pertussis, measles and typhoid fever during childhood. Had gonorrhea about a year ago. On October 7th last, patient noticed a sore on her labia, this was followed about six weeks later by a papular eruption, covering the entire boy.

Physical Examination.—At that time reveal a large, deep, indurated ulcer at lower junction of the labia majora. Both labia were swollen and inflamed. Patient had severe yellowish discharge from the vagina. The face, trunk, arms and legs were covered by a papular eruption, which was symmetrical, and not attended by itching. A diagnosis of secondary syphilis, gonorrhea and chancroids was made. Patient left the hospital after the sores on her labia had healed.

Patient re-entered the hospital on December 23d. Physical examination revealed a severe degree of emaciation; the papular eruption had disappeared; but instead there were copper tinged scars, the result of the former eruption, spread diffusely over the body. Thoracic and abdominal viscera revealed nothing. The throat was slightly inflamed and the patient complained of her hair falling out. Gynecological examination revealed a large scar on the labia. Weight of patient 90 lbs., temperature 99; pulse 78; respiration 22.

Patient was put on specific treatment and showed steady improvement.

On January 31st, nearly a month after reentering the hospital, patient was seized with a severe chill, which lasted about a half hour. She complained of a sharp, piercing pain in left side in the region of the nipple. This pain was especially severe when patient was forced to cough. The cough was short and dry. Respiration was shallow. Temperature 104; pulse 125; respiration 30. Both cheeks were flushed, the eyes were bright, and the pupils dilated. Herpes was present on the lips. The pulse was full and bounding. Physical examination revealed a consolidation of the entire left lower lobe; the upper lobe was not yet affected; a diagnosis of lobar pneumonia was made. Temperature range was fairly constant throughout her sickness, never remitting more than one or two degrees. The pulse and respiration, however, showed a steady increase in frequency until on the tenth day, the day of her death, the pulse had reached 150; was thready and weak; and the respiration had reached 50 or 60, and was extremely shallow. The sputum throughout was extremely tenacious, but at no time showed the blood tinged sputum characteristic of lobar pneumonia. Repeated examinations of the sputum failed to reveal any tubercle bacilli. An examination on the seventh day showed the entire left lung to be consolidated; patient died on the tenth day. At no time was there any sign of a crisis.

A post-mortem performed by Dr. Carl Fisch revealed consolidation of the entire left lung. The lower lobe was in the stage of gray, hepatization. The upper lobe was of a mottled red and gray pneumonic consolidation. The pericardial sac contained about five ounces of thick yellowish pus. Sections of the lung failed to reveal any gummata. Microscopical examination showed the lung tissue to be densely filled with spirochetae pallida to the exclusion of all other bacteria; therefore, a post-mortem diagnosis of syphilitic lobar pneumonia of the left lung was made.

In consulting the literature on the subject of syphilis of the lungs, I find that most authorities agree that it is a very rare disease. Osler and Anders classify syphilis of the lungs into the three following divisions: first, pneumonia alba found in the still-born; secondly, gummata of the lungs; and third, fibrous interstitial pneumonia at the root of the lung and passing along the bronchi and vessels. No mention is made of a syphilitic lobar pneumonia; although Osler says there are certain French writers who recognize an acute syphilitic pneumonia in adults simulating acute pneumonic phthisis. Dr. Elsworth Smith, in discussing a paper on syphilis of the lungs, by Dr. Walter Fischel, mentions several cases of syphilis of the lungs which simulated pulmonary tuberculosis; but all of whose symptoms cleared up under specific treatment.

In our case we have syphilis of the lung simulating a lobar pneumonia, or in other words a syphilitic lobar pneumonia. The question arises whether or not the two diseases did not co-exist. Microscopical examination apparently proves that they did not.

PRIZE FOR ESSAY ON OCCUPATIONAL DISEASES.—Dr. Louis Livingston Seaman has offered a prize of $100 for the best essay on The Economic Waste Due to Occupational Diseases. In the original announcement the time limit was specified as April 1st, but the time has been extended to June 15th. Each essay must not contain more than 5,000 words. It must be signed by a nom de plume, and the real name and address sent in a sealed enevlope to the Director of the American Museum of Safety Devices and Industrial Hygiene 231, West Thirty-ninth street, New York.

THE MEDICAL FORTNIGHTLY

Issued Tenth and Twenty-Fifth of Every Month.

Edited By
DR. THOS. A. HOPKINS

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EDITORIAL

The Antimalarial Crusade in Greece.

THE people of Greece under the guidance of a very able medical profession are waging a war against malaria very similar in its general plan of management to that directed against tuberculosis in this country. An emphasis of both education of the masses and an intelligent application of preventive measures is the prime endeavor of those conducting the campaign. In a recent article* Dr. A. Rose quotes from Cardamatis whose experience and activity have done much to bring about a united effort for a betterment of conditions.

The problem of malaria is a serious one with Greece, statistics show that in each 100 urban deaths 4.36 are due to this disease, while in city and country it is estimated that in each 100,000 population 12,848, are afflicted with malaria, a proportion considerably higher than that in Italy.

"There are one million acres of marshes in Greece. A great deal of drainage has been done by two companies, an English and a Greek company.

"The syllogos, similar to the one established in Italy, was formed by Dr. Cardamatis in the year 1905, who commenced his work on May 4, 1905. It has the hearty support of distinguished physicians, clergymen, politicians, in fact of the whole population; has been recognized by royal decree and stands, as mentioned, under the special protection of the king, who takes personally the warmest interest in the vital question here involved, and, as we shall see, promotes in many ways the work of this patriotic society.

"One of its first objects is to make popular the information about malaria among all classes in all cities and villages of Greece. To this end committees have been formed which are headed by the highest in rank, the archbishops, mayors, physicians of distinction, in fact all influential men. The next object of these committees is to study all concerning malaria in their respective districts, the existence of marshes, the means and ways for the drainage of such marshes, to destroy mosquitoes, to provide quinine either free or at the smallest price for the poor, as therapeutical as well as prophylactical measures, to elicit the interest of the priests, the municipal authorities, the physicians, the teachers, to collect money destined to promote the purpose of the syllogos. In order to facilitate this work the syllogos has issued brief instructions, printed in form of hand bills similar to those published in Italy, and distributed them every where. They were sent out by the Department of Public Instruction to the teachers of the public schools with the request to propagate the contents through the pupils, to the families. In order that the knowledge about malaria may become more clear among the population, pictures of plasmodia, of the development of the mosquito, and other illustrations about the genesis of the fever have been added. These illustrations are distributed now to be hung on the walls not only in all public schools, but also in the shops, the railway stations, the coffee houses, etc. It is contemplated also to put postal cards with illustrations concerning malaria into circulation, and finally a kind of decalogue corresponding with the Italian malarian decalogue, commandments of precaution against malaria. It is intended to give discussions with demonstrations by means of the stereopticon not only in medical societies, but also for teachers and the general public in the cities. This has been considered as promising to be an effective mission for physicians who will go from place to place, welcomed by the country practitioners, who will learn the most advanced modern views.

The" syllogos has addressed himself privately to every one of the wealthy landlords, sending them instuctions about the measures of drainage of the little marshes in their states.

"The daily press and the literary magazines have greatly contributed in disseminating the ideas of the syllogos by republishing articles and pictures relating to precautions against malaria."

Simultaneously with this work practical work is being done in locating marshes and in getting them coated as rapidly as possible with oil or, better, drained. Olive oil is used in preference to petroleum, it being cheaper,

*Malaria in Greece, New York Medical Journal, April 11, 1908.

harmless to vegetation, or where the water must be used for domestic or other purposes and not markedly inflammable as is petroleum, and therefore less liable to contribute as a cause of fires in the dry season.

All this sounds so much like the campaign of education and prevention that is now spreading to every corner of our country that it is extremely interesting. Unquestionably there are sections in our lowlands where just such work should be done against malaria.

Recent Advances in the Therapy of Gonorrhea in the Male.

It is a generally conceded fact that there is nothing absolutely new in the way of medicines directed against the gonococcus for which physicians of the present day are responsible. Silver has been modified and presented in forms that it may be effectively applied without torture to the patient; sandalwood is also modified to increase its effectiveness and to make it less objectionable. All lines of advance seem to swing about silver, sandalwood and potassium permanganate, with the attendant use of diuretics, urinary antiseptics, and local astringents.

Medical literature is less burdened with matter on the treatment of his disease than it was a decade ago, and with the decrease has come matter better worth reading. A recent number of Folia Therapeutica contains an interesting article by Arnold Edwards, of Manchester, in which he gives the result of his extended experience with santyl, a remedy which has been presented to the American profession and is very generally used.

In his introduction, the author recognizes three stages of gonorrhea: 1. The stage when gonococci are present; 2, when the gonococci have disappeared and pathological changes in the mucous membrane make their appearance. This may or may not be followed by the third stage, or the stage of secondary infection with other bacteria.

The treatment calls for a prompt destruction of the gonococci and removal of foci. At the same time, the mucous membranes should be protected as carefully as possible and inflammation, injury to the tissues and all unnecessary pain must be avoided. He employs the "combined" treatment, that is, santyl internally and protargol, potassium permanganate or silver nitrate locally, according to the stage of the disease. He does not claim a gonococcocidal property for the balsams, but considers them valuable adjuvants, since they ease pain and diminish secretion. The most suitable drugs for the internal treatment of gonorrhea, seem to be the preparations of sandal wood. They have only found limited therapeutic use, however, since they possess a disagreeable odor and taste, and frequently give rise to gastro-intestinal disturbance, renal pains and temporary albuminuia. The salicylic acid ester of santalol (santyl-Knoll) does not show these after-effects. It was given in doses of 30 drops three times a day, particularly in posterior urethritis, prostatitis, epididymitis, etc. It proved to be a valuable adjuvant to the local treatment since energetic local applications were only possible after the rapid diminution of the secretion and alleviation of the pain.

The drug he regards as the most important remedy we have in the internal treatment of gonorrhea, since it acts promptly, relieving the pain and aiding local measures in checking the purulent discharge. Furthermore, it is non-irritating and does not affect the gastro-intestinal tract and the kidneys.

In accord with the various stages of gonorrhea, the author varies his local treatment.

In the first stage he destroys the gonococci by alternating applications of protargol and potassium permanganate, in the second stage he uses astringents, and in the case of secondary infection, irrigations with sublimate.

This plan of treatment will be found generally effective and will give a minimum of complications. We have never been able to use "irrigations with sublimate" on our patients more than once, but possibly the English urethra is more tolerant than those in America. We would recommend to our readers that they employ it with great caution and in very dilute form, if at all.

The Coming of Dr. Koch.

The stay of Robert Koch in St. Louis was something of a disappointment to the profession and public, which were planning to do him honor; before his arrival the experience of other cities had given us warning that the doctor is resting, and that he does not intend that his vacation shall be made strenuous when it is in his power to have it otherwise. So Dr. Koch came. A few personal friends and a few friends of members of his family who reside here had the privilege of meeting him, but the feasts were not served and the speeches were not made. Robert Koch will never know what he missed.

We believe that Dr. Koch has taken a very sensible view of the situation; we rather admire his courage in doing just what he has

set out to do, even though we are a little disappointed that we did not get a near view of him. Anyway we can jingle the seven dollars that we had expected to invest in a feed that we did not need, and we can congratulate ourselves that we escaped that dress suit another evening. These functions are all very well, they are a necessary evil, but when you think of the dress suit and the speeches, not to mention the seven dollars, there are compensations for having missed this one.

ST. LOUIS ITEMS.

CHARITY CARNIVAL.—Preparations are well under way for the annual charity carnival which is to be held at Delmar Garden in mid May. The carnival last year netted a considerable amount which was devoted to medical and allied charities. The same institutions will be its beneficiaries this year.

PERSONALS.—Dr. H. G. Mudd, Dr. Bransford Lewis and others from this city attended the Hot Springs, Va., meeting of the Association of Genito-Urinary Surgeons. Dr. R. C. Atkinson fell recently fracturing a humerus. Dr. John Y. Brown will deliver the Address on Surgery at the 1908 meeting of the Illinois Medical Association.

ST. LOUIS CONTAGIOUS DISEASES AND MORTALITY.—The report of the Health Department for the week ending May 2d, shows the following new cases of contagious diseases and the mortality from each disease for the week:

	New Cases.	Deaths.
Smallpox	1	0
Diphtheria	18	2
Croup	1	0
Scarlatina	31	3
Typhoid	4	0
Measles	51	0
Varicella	12	0
Pertussis	13	0
Consumption	20	34

During the week before there were thirty-four new cases of consumption reported and twenty deaths recorded.

PHENOMENAL KRAUSS.—Something better than six months ago a medical fakir calling himself "Phenomenal Krauss," made his advent in St. Louis; his coming was heralded by a most phenominal use of printers' ink with a vaudeville accompaniment. He had associated with him doctors whom he advertises as his "specialists," men whose standing is such as would be expected from such an association. He soon attracted the attention of the legitimate profession and of the Post office Inspectors through his extravagant claims, and complaints from patients began to come in. U. S. Postal Inspectors, John Sullivan and W. J. Means, with the co-operation of several physicians, have been working on the case and evidence was collected sufficient to lead U. S. Attorney Blodgett and Assistant U. S. Attorney Daues to issue an order for his arrest charging a scheme to defraud. Krauss and two of his "specialists" were arrested and released under bond pending their hearing, which occurs this week. Krauss is said to have previously operated in Peoria, Des Moines and Marshalltown, Ia.

THE Medical Society of the City and County of Denver has been incorporated in order to give the organization a standing before the law, and to enable it to establish a library and erect a building for its own use.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M. D. Vol. X. No. 1, March, 1908. Philadelphia and New York: Lea & Febriger. (Six dollars per annum.)

The first number of this volume is well in keeping with its predecessors and what has been said of the past numbers equally applies to the present one. Charles Frazier, who writes on "Surgery of the Head, Neck and Thorax," again demonstrates his ability as a writer. His abstracts are presented in a clear and impressive manner. Suffice it to say that not a single noteworthy surgical publication of the past year has escaped his pen. The chapter on "infectious diseases," written by Robert Preble incorporates a comprehensive resumé of the literature on bubonic plague, cerebrospinal fever, diphtheria, influenza, malaria, pneumonia, acute articular rheumatism, scarlet fever, tetanous and typhoid fever. The reader will find these pages abreast of the times and containing much useful information. Frank Crandall's section on "Diseases of Children" is presented in an eminently practical manner with an unusually large amount of space devoted to the discussion of status lymphaticus. The special branches of "Rhinology and Laryngology," and "Otology" are respectively written by Braden Kyle and Arhur Duel. Those interested in this special field of practice will find these chapters very desirable reading matter.

MEDICAL PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

OTOLOGY.

A. F. KOETTER, M. D.

Local Anesthesia in Otology and Rhinology. —Compilation of Dr. Haymann, Internationales Centralblatt fuer Ohrenheilkunde.) —General information on local anesthesia and its application certain general points must be considered. For many cases within certain section a relatively superficial effect is sufficient. In the customary methods of application, painting, spraying, etc., a certain amount of anesthesia of sufficient depth for many cases is produced, providing the anesthetic is applied in such manner and for some time that it can penetrate and also to some depth. But this method has only limited value in every case; we see this not only in the insufficient action of the anesthetizing remedy, even more so in the absent bloodless action. On the surface of the mucous membrane we can never produce the bloodless effect as in infiltration.

The infiltration anesthetic does not only act more certain than the superficial anesthesia, it is also active where the latter does not act, viz., in regions covered with epidermis. Besides that it is less dangerous.

The amount of the local anesthetic to be used without danger in the regions of the body to be considered here, varies in practice in wide margins. Although a maximal dose for all the remedies to be considered is given. Novocain, and alypin are supposed to have only one-sixth the toxic effect of the cocain poison. The lethal dose is known from experiments on animals. But these facts cannot be carried to practical use without some restrictions. Here entirely different relations of absorption are to be considered. A maximal dose in the usual sense, does not exist according to Braun, for cocain any more than it does for ether or chloroform. As in these remedies a small amount, when introduced in concentrated form in the blood may cause the individual's immediate death, whereas a relatively larger amount introduced gradually can be withstood without danger, so it is also with cocain. Experience has taught us that in a weak percentage solution a larger amount can be introduced into the system without bad effect than in the more concentrated form. It depends in the first. barring the nevertheless possible individual idiosyncrasy, on the amount that is absorbed. This in weak solutions in the same length of time and under the same conditions is naturally less than in concentrated solutions. As an immediate decomposition should take place in the body an injurious accumulation of poisonous substances cannot occur. The practical results of the above may be summed up as follows: Wherever possible weak, diuted solutions should be used. If proper infiltration technic is used same results can be produced with weak solution. But where, as in superficial anesthesia of mucous membrane, concentrated solutions cannot be avoided, it should be our aim to get along with very small quantities, the anesthetic introduced only at intervals into the organism, that is paint only small surfaces of mucous membrane at a time, every overflow into the pharynx and esophagus is to be avoided.

Furthermore, if possible, adrenalin is added to the anesthetic. Before all these experiences were had, before the technic was correspondingly improved, and especially before in suprarenin a remedy was found that by vessel contraction made absorption difficult, at the same time increased the local action of the cocain, bad results were not rare. According to our experience a typical cocain action of a marked degree was rarely observed.

Nevertheless the desire to replace the cocain, with a remedy of the same anesthetizing qualities and less poisonous, can be well understood. But few of the many introduced within the last few years have filled the want, meeting the requirements of Braun, viz., slight virulence with equal effect, absence of all irritation, soluble in water, stable and sterilizable. Ability to combine with adrenalin easy and rapid pentration from the surface into the mucous membrane.

Regarding stability and sterilization many of the new remedies are better than cocain. But in most of them the action is less pronounced than in cocain. Some possess greater virulence, as acoin, aneson, holocain. Stovain causes unpleasant irritation. According to Braun only tropacocain, eucain B., novocain and in definite form alypin can be considered as substitutes. Of the anesthetics of the orthoform group, orthoform and anesthesin because of the fact that they are not easily soluble are difficult of absorption, therefore remain in situ for a long time in wounds and abscesses, have a long continued pain stilling action. This defines the limits of their use, they are best used in shape of powders and salves.

The best chances for competition with cocain are apparently with novocain and alypin, and the latter is especially efficacious in anesthesia of mucous membranes, the former for infiltration. They are considerably less toxic than cocain. In its anesthetizing qualities alypin in corresponding concentra-

tion is almost as good as cocain. Braun verifies the fact that the addition of suprarenin increases the anesthetizing qualities. But alypin when used for injection irritates severely, damage to tissue has been demonstrated. The injection as emphasized by Ruprecht, is also painful. For these reasons alypin is not feasible for infiltration. Bürkner on the contrary, has achieved good results by this method. For superficial anesthesia of mucous membranes alypin is recommended by Seifert, and especially in combination with suprarenin by Ruprecht. The novocain has, according to Braun, only a fleeting effect, but it receives strong anesthetizing qualities through combination with suprarenin. Its action as a mucous membrane anesthetic is according to Ruprecht, too slight to be considered as a substitute for cocain in our field of work. But for infiltration it is on account of its non-irritating qualities, slight toxicity, its stability easily sterilized and action equal to cocain. Braun considers it the ideal anesthesia for infiltration. The rules for use of the anesthetic in infiltration are well known. The certainty of the action increases if the solution is prepared fresh each time. This is made easy by the tablets on the market. Sterilization by cooking can be done with alypin and novocain, but not with cocain. The latter can by addition of 1-2 per cent carbolic acid (Heryng) be made stable if fresh solution cannot be prepared each time. In the tablets the anesthetic is combined with the suprarenal preparation. Braun uses the cocain tablets (Pohl-Schönbrum-Danzig) and novocain tablets (Höchster Farbwerken). He prepares the following solutions:

SOLUTION I.

Cocain chlorhydrat. 0.1 or novocain..0.25
Physiol. Kochsalz..100.0
Suprarenin.....(1:1000) or
Homorenon sol..... (4%) } 5 drops

SOLUTION II.

Cocain chlorhydrat ..... 0.1 or 0.25
Physiol. Kochsalz..... 50.0
Suprarenin sol.....
Homorenon sol.....aa 5 drops

SOLUTION III.

Cocain chlorhydrat..... 0.05 (0.1)
Physiol. Kochsalz..... 10.0
Suprarenin sol.....
Homorenon sol.....aa 5 drops

SOLUTION IV.

Cocain chlorhydrat..... 0.05 (0.1)
Physiol. Kochsalz..... 5.0
Suprarenin sol.....
Homorenon sol.....aa 5 drops

The other anesthetics, viz., alypin can also be had in tablet form, the cocain-adrenalin solution sterilized in auto claven is sold in phials of 1ccm. (0.0075 cocain hydrochlor, 0·05 adrenalin) as eusemin to the trade. As to the choice of injection syringes and hollow needles he refers to Braun's book on local anesthesia (1907). Fine injection needles had better be of platiniridium they are not affected by rust and can be passed through a flame. Otherwise steel needles can be used. Platinum as well as steel needles should be cleansed by squirting absolute alcohol through them and then blown out with bulb. A wire is then pulled through the steel needles. Hollow needles as well as syringes if boiled in soda solution should be carefully rinsed with normal salt solution or water, if this is not done the action of the anesthetic as well as the suprarenin is decreased.

II. Local Anesthesia in Otology—Operations on the auricle.—For simple incisions or punctures of short duration the ethyl chloride spray is sufficient. Better anesthesia can be had by infiltration, respectively anesthesia of the conducting organ. The usual solution in their respective concentrations are used. Braun recommends the following procedure: single sections of the auricle become impervious to pain in their entire thickness if it is possible to divide it from the rest of the ear through infiltration with anesthetizing solution of a segment or wedge. Braun at the same time calls attention to the fact that the injection on the posterior surface may be made subcutaneously. On the anterior surface where the skin fits closely to the cartilage he recommends a continuous wheal or phomphus line. By conducting anesthesia the whole auricle may be anesthetized. The injection occurs at two points, the one is close over the insertion of the auricle, the other under the lobe in the fold between mastoid process and the articular process of the lower jaw. At both these points 10-15 ccm. of the solution is injected subcutaneously all around the insertion of the auricle, anterior immediately in front of tragus, posteriorly close to the fold. Then from the lower puncture the needle is pushed between mastoid process and process of the inferior maxilla along the floor of external canal and few ccm., of the anesthetic injected. Haug report three cases of auricle operation in which he gained complete anesthesia by means of infiltration method of Braun.

2. Operations in External Canal.—The intact epidermis cover of the canal and drum membrane make the penetration of the anesthetizing remedy very difficult. This condition common to both, furthermore the fact

that the external canal and drum membrane are supplied in part by the same nerves explains fully that anesthesia of external canal causes certain amount of anesthesia of the membrane. In the very painful inflammations of the external canal recommends anesthesia, either as glycerine-gelatine almond, or in alcoholic solution with thymol or menthol. Schild uses ethyl chlorid in mild spray accompanied by air inflation to facilitate evaporation in external canal. Katz accomplishes a complete anesthesia with 10% alypin solution without adrenalin, both in furunculosis and in incising the furuncle. Bürkner recommends 5% alypin in furunculosis of canal for anesthesia, but this is not effective in the early stages, there he uses alypin with adrenalin subcutaneously. Other observers, as Neumann, Hechinger, in fact the majority of the authors are very skeptical as to the certainty of the action on the surface with intact epidermis. Therefore mixtures are prepared generally with carbolic acid which cauterize the protecting layer of epidermis and facilitates the penetration of the respective remedy. The infiltration of the canal walls from within may be fairly successful, but cannot be considered in the cases mentioned, because it is difficult to execute and increases the difficulty of inspection. But many authors were successful in producing a sufficient anesthesia by the conducting method of anesthesia.

1. Lavel's Method.—A puncture with the needle one-half cm. in front of tragus, in height and direction of the floor of canal pushed perpendicularly 1½cm. in depth. Here we reach nervi meat. acoust. externi of the auriculo-temporalis. On account of danger of injury to tempero-maxillary joint and vessels, the mouth must be opened wide. Then puncture close behind the fold of the auricle between mastoid process and auricular cartilage about the height of external canal penetrate 1cm. prependicularly in depth and reach the rami auricularis of the vagus. Lead the needle from the second puncture close under the external skin parallel to the post-auricular fold about 1½ cm. forward and downward to meet branch of auricularis magnus. This anesthesia lasts about twenty minutes, and is sufficient for furuncle, abscess and cancroid operations.

2. V. Eicken choses as puncture point the fold of the auricle at the height of floor of canal). First, he pushes the needle backward and upward against the tympano-mastoid fissure. Here we meet the auricular nerve of the vagus and empties a part of the solution. Then he pushes the needle from the same puncture parallel to the tympanic medial and forward (1½ cm. deep, mouth open wide) and anesthetize with the rest of the solution the branches of the auriculo-temporalis. Eicken makes the first puncture under ethyl chloride spray and uses ½% cocain adrenalin solution.

3. Braun uses a similar method, but independent of the above. He inserts the needle below the lobe between mastoid process and tempero-maxillary articulation. Points the hollow needle first along the anterior surface of mastoid process, passed against the tympano-mastoid fissure and empties a part of the Pravatz-syringe using solution three and four. Then he penetrates forward against the posterior surface of tempero-maxillary articular process into the depth and injects the rest. In this way you meet branches of the vagus and auriculo-temporalis innervating the external canal. In all these methods the membrane is less sensitive, but a sufficient anesthesia does not occur.

3 Anesthesia of the Membrane.—Setting aside the fact that it is desired to avoid the painfulness of the paracentesis, anesthesia of the membrane is of value, as it makes possible a complete incision of the membrane. Schild recommends the ethyl chloride spray, mentioned above, for paracentesis. The point is to bring the anesthetic in contact with the membrane. Iwanow presses the cotton pledget saturated with cocain adrenalin against the membrane for ten minutes. According to Katz a 10% pure alypin solution causes absolute anesthesia for paracentesis. Ruprecht with alypin suprarenin in the majority of cases performs a painless paracentesis. Bürkner applies a 5% aqueous or alcoholic solution by means of a cotton pledget 10-20 minutes. The paracentesis was nearly always painless. The anesthesia was more effective, the more the membrane was changed, the loss of the epidermal layer, especially increased the effectiveness. The fact that the uninjured epidermal layer of the membrane is an almost invincible barrier to the penetration of the solutions is acknowledged by most authors (Braun, Neumann). Perhaps the widely different reports may be explained by the fact that according to the amount of inflammation the epidermal layer may be more easily penetrated. The attempts, that by means of caustic remedis, the penetration of the solutions is assisted, has been mentioned. They undoubtedly increase the anesthetic action on the inflamed membrane. The customary formula is the one of the Freiburger clinic of Hechinger:

Acid carb. liquef.....	0.5
Cocain mur.....	
Menthol.....aa	2.0
Spirit. vin.....10.0	

This is carried on an applicator or by means of a cotton pledget on the part of the membrane to be incised and allowed to remain 20-30 minutes. The method is good, but often very painful and not always certain. Haug in using a 20% novocain solution (without suprarenin) for fifteen minutes did not get a satisfactory anesthesia, but gained the effect by previous use of a 10% carbolic acid solution. He recommends the following mixture:

Acid carb- liquef	2.0
Novocain	5.0
Salvi ileni volor in thy. pulv...	25.0

Instilling this remedy is often effective. Anliffe tried to produce anethesia by instilling cocain through the tube to the mucous membrane. In this method it is questionable if an undesired absorption does not take place, for in order to bring the remedy in direct contact with the mucous membrane, the tympanic cavity must be filled and remain so for some time. The danger of intoxication in anesthesia of the membrane exists in a high degree according to Ruprecht and Bürkner a certain amount of anesthesia of the membrane also occurs in the methods used in external canal anesthesia (Laval, v. Eicken, Braun). A definite anesthesia of the membrane is reached by the method of Neumann, subcutaneous resp. subperiosteal injection from the external canal. As this anesthesia is used in the more extensive operations of the tympanum, it will be discussed in the following chapter.

4. Operations in the Tympanic Cavity. —For anesthesia of exposed parts of the tympanic mucous membrane, as well as for removal of granulations, polypus, etc., a 5-10% solution of cocain or one of its substitutes, in combination with a remedy increasing its penetrative action. The anesthesia, even if one waits long enough is not always complete, surrounding tissue, which in every instrumental interference is more or less affected, is not in the least influenced by the anesthetic. Haug did not get a complete anesthesia with a 20% novocain-adrenalin solution. In intratympanal operations Bürkner has achieved good results with alypin Ruprecht reports a sufficient anesthesia for rmoval of the ossicles with alypin-adrenalin. He recommends the addition of so much alypin to 1:1000 suprarenin to make a saturated solution, and apply with a cotton pledget. It is of course self-evident that the infiltration method used with such excellent success elsewhere can also be used here. Gomperz infiltrated the skin in the zone of the Troeltsch's strip, according to Schleich, and produced an anesthesia sufficient for malleus extraction. Neumann reports a procedure used in Politzer's clinic in a number of malleus incus extractions, with chiseling away of the lateral attic wall, under complete local anesthesia. A cleft ear mirror is introduced in the canal and an ethyl chloride spray is allowed to play on the point of puncture. At the transition between cartilage and osseous superior canal wall the needle of a bent Pravatz syringe is inserted to the bone. While the needle is moved forward carefully the fluid, which has been heated to 50 deg. is injected subperiosteally, you can also inject 1 ccm. of the fluid in anterior superior part of canal. Care must be taken not to puncture the cutis posterior superiorly. With intact drum membrane a part of the solution runs over the tympanum through the tube, in perforation escapes outwardly. Without any off flow one com. is sufficient, otherwise two to three com. In a successful infiltration the canal wall lift itself posterior superiorly as in a congestion. In a narrow canal this would make the field of operation very limited. This method has also been used by Neumann in loosening of synechia, tenotomy, malleus and incus extraction, curetting of attic and antrum, removal of the covering of bony canal, chiseling off of external attic wall. It is highly recommended for all intratympanal operations. Halaz reports ten cases of ossicle extraction operated on under the above infiltration method. Haug uses novocain for the injection. Bürkner uses alypin-adrenalin in subcutaneous infiltration method, for this operation, with splendid success, notwithstanding reports of other observers who condemn the use of alypin for infiltration anesthesia.

5. Operation on the Mastoid Process.—For the ordinary opening to the antrum local anesthesia is often used. Reports are at hand from Schleich, Reclus, Scheibe, Thies, Hoffmann, Novack, Alexander. As regards the methods there is very litile difference. Schleich in the bone operation, which in itself is not necessarily painful, even in infiltration of the soft parts not always painless, uses, as does Scheibe, the ethyl chloride spray. Besides subcutaneous infiltration subperiosteal infiltration was also performed (Reclus). More certain than the infiltration method of Schleich is, according to Braun, the procedure of Neumann. Heidenhain injected ½-1% cocain adrenalin solution under the Galea, and in two cases of trepanning found Galea, Bone and Dura entirely painless. But nevertheless in order to penetrate the bone, the diffuse action of stronger solutions must be used. Neumann injected a mixture of 1% warm cocain solution tonogen

Richter (3 drops to 1 ccm.) subperiosteally at the mastoid and produced complete anesthesia. By coloring the solution with a few drops of gentian-violet he could prove that the anesthetizing fluid penetrated into the interior of mastoid process. Neumann's method although previously published, epecially as to technical details, will be repeated. Injection is done at three points of puncture, Neumann names the upper, lower and middle of mastoid process, subperiosteal and in the direction of the intended incision subcutanously. There in the fold of the auricle parallel to posterior wall of canal, injected in two places, so that anterior part of mastoid is infiltrated. The injection to the tip of mastoid process where periostium adheres closely, is easy. The needle is also pushed from the planum against the occipital bone. For the injection Neumann uses 5 ccm. 1% cocain solution, twelve drops adrenalin and 3 ccm. physiological salt solution warmed to body temperature. Ten to fifteen minutes after the infiltration the operation may commence. In subperiosteal abscesses this method cannot be used, probably due to change of pressure. In the majority of mastoid operations by Neumann he produced complete anesthesia. Haug reports three cases of good local anesthesia with novocain (Sol. II) in acute opening of the mastoid. Others very likely have made these attempts without reporting them. According to our, not very numerous, reports, the results are not constant, sometimes good, sometimes with same method, incomplete so that narcosis is necessary.

Less favorable than for the simple antrum operation, are the reports as to the possibility of doing a radical mastoid under local anesthesia without pain. Alexander declares the infiltration method of Schleich incomplete, the operation on the mastoid is painless, but the detaching of the posterior canal wall and the work in the tympanum is painful. Braun points to the fact that interruption of conduction of the nerves supplying tympanic mucous membrane is not possible, and he is therefore very skeptical as to the success of local anesthesia. By combination of the superiosteal injection of the mastoid with subperiostal in the canal, as for malleus-incus extraction. Neumann has succeeded in producing sufficient anesthesia for the radical operation. The technic is as follows: The infiltration is done as described above for acute opening of the mastoid and follow, or after a pause of a few minutes, as for malleus-incus extraction. He recommends injecting a solution into the four walls of the canal at the intersection of osseous and cartilaginous portion. According to this method forty radical operations were performed with a sufficient anesthesia. As in the antrum opening, a subperiosteal abscess, so it is here perhaps for the same reason, a lifting off of the posterior superior canal wall is contraindicated, but not necessarily a total defect. Skin incision, detaching of canal, removal of ossicles, bone operation, working in the tympanm and plastic were painless, but the scraping of the region of the tube was painful. In the tympanum a 20% cotton pledget was placed. For anesthesia 7-8 ccm. 1% cocain in few cases eucain 15 drops, adrenalin and 5-6 cm. physiological salt solution were used. Braun considers this dose too large and recommends using novocain instead of cocain. He points to the fact that in most histories Neumann's cases repeatedly showed bad results, and the local anesthesia was not always successful. For this reason and observing the psychic effect he prefers narcosis.

Further observations on large operative material would not be amiss.

DOCTOR, take a vacation trip after the A. M. A. meeting, and spend a few weeks at "The Ostend," queen of hotels at Atlantic City, America's famous watering place.

COMING MEDICAL MEETINGS.

National Meetings

American Medical Association, Chicago, June 2-5, 1908.
American Association of Medical Examiners, Chicago, June 1-2, 1908.
American Gastro-Enterological Association, Chicago, June 1-2, 1908.
American Urological Association, Chicago, June 1, 1908.
Association of American Teachers of the Diseases of Children, Chicago, June 1.
International Congess on Tuberculosis, Washington, D. C., September 21 to October 12.
Mississippi Valley Medical Association, Louisville, Ky., October 13-15, 1908.
Medical Society of the Missouri Valley, Council Bluffs, Iowa, Sept. 3-4, 1908.
Medical Association of the Southwest, Kansas City, Mo., October 20-21, 1908.
National Association for Study and Prevention of Tuberculosis, Chicago, June 5-6.

State Meetings

Arkansas, Little Rock, May 13-15, 1908.
Colorado, Denver, October, 1908.
Idaho, Boise, October 8-9, 1908.
Illinois, Peoria, May 19-21, 1908.
Indiana, French Lick, June 18-19.
Iowa, Des Moines, May 20-22.
Kansas, Iola. May 5-7.
Kentucky, Winchester, October.
Michigan, Manistee, June.
Minnesota, St. Paul, October.
Missouri, Springfield, May 19-21.
Montana, Butte. May 13-14.
Nebraska, Lincoln, May 19-21.
Nevada, Goldfield, October 6-7.
New Mexico, Albuquerque,
North Dakota, Grand Forks, May 20-21.
Ohio, Columbus
Oklahoma, Sulphur, May 14–16.
Oregon, Portland, July.
Texas, Corpus Christi, May 12.
Utah, Salt Lake. May 12-13.
Washington, Walla Walla, September 2-4.
Wisconsin, Milwaukee.
Wyoming, Sheridan.